

### REMARKS

The Office Action dated August 12, 1999 has been carefully reviewed. Claims 1-20 are pending in this patent application. Applicants respectfully request that the Examiner enter the present Amendments after Final, as they place the Application in better form for Allowance or Appeal. The Amendments were not earlier presented in view of Applicants' sincere belief that the existing claims were patentable. Reconsideration of this application, in light of the amendments and the following remarks, is respectfully requested.

#### **35 U.S.C. § 102 Rejection of Claims 1-3, 5-11, 13-18, and 20 (Burton)**

Claims 1-3, 5-11, 13-18, and 20 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,769,596 issued to Burton ("Burton"). Claims 1, 7, and, 15 have been amended to more clearly define the invention. Reconsideration of claims 1-3, 5-11, 13-18, and 20 is respectfully requested in light of the amendments and the following comments.

#### Discussion Re: Patentability of Claim 1

Claim 1 has been amended to include the limitation of claim 4. Claim 4 has been cancelled. Claim 1, as amended, reads as follows:

1. A method of verifying proper coupling of an implement assembly to a lift arm assembly by an operator who is located in a cab of a work machine, with (i) the work machine including the implement assembly and the lift arm assembly, (ii) the implement assembly including a hinge plate, (iii) the hinge plate having a first

coupling aperture extending therethrough, (iv) the lift arm assembly having a lift arm and a cylinder, and (v) the cylinder being secured to the lift arm, comprising the steps of:

**advancing a hydraulic fluid into a cylinder** so as to move a pin from a first pin position to a second pin position, wherein (i) the pin is spaced apart from the first coupling aperture when the pin is located in the first pin position, and (ii) the pin extends through the first coupling aperture when the pin is located in the second pin position; and

**viewing the pin when the pin is located in the second pin position by the operator from a position within the cab** whereby proper coupling of the implement assembly to the lift arm assembly is verified by the operator without having to exit the cab. (emphasis added)

Nowhere in Burton is it disclosed that the cylinder is actuated by **advancing a hydraulic fluid into a cylinder** so as to move a pin from a first pin position to a second pin position. In contrast, Burton states as follows:

the pins 26 are moved between their latched and unlatched positions by an **electrically energized linear actuator 40** (FIGS. 4 and 5). By virtue of utilizing an electrical actuator to shift the pins, the coupler 10 may be quickly installed on the boom 12 since connection of the actuator to the electrical system of the vehicle is relatively simple and easy matter. (column 3, line 19-25) (Emphasis added)

Nor does Burton discuss viewing the pin when the pin is located in the second pin position by the operator **from a position within the cab**. Burton only states that

the operator may easily see the end portions of the pins and visually determine whether the bucket 11 is safely attached to the coupler 10. (see column 4, lines 6-8)

Burton does not teach that the operator can view the pin **from a position within the cab**.

Therefore, the Examiner will appreciate that Burton does not teach the above discussed limitations recited in Applicants' claim 1. Specifically, Burton does not teach advancing hydraulic fluid into a cylinder so as to move a pin from a first pin position to a second pin position. Nor does Burton teach viewing the pin when the pin is located in the second pin position by the operator from a position within the cab. Accordingly, claim 1 is not anticipated by Burton under 35 U.S.C. § 102, and the Applicants respectfully request that the rejection be withdrawn.

Discussion Re: Patentability of Claims 2, 3, 5, and 6

Each of claims 2, 3, 5, and 6 include claim 1 as a base claim. As a result, each of claims 2, 3, 5, and 6 are believed to be allowable for the reasons hereinbefore discussed with regard to claim 1. Moreover, each of claims 2, 3, 5, and 6 include additional novel and non-obvious limitations. As a result, Applicants respectfully request that the rejection of claims 2, 3, 5, and 6 be withdrawn.

Discussion Re: Patentability of Claim 7

Claim 7 has been amended to include the limitation of claim 12. Claim 12 has been cancelled. Claim 7, as amended, reads as follows:

7. A method of verifying proper coupling of an implement assembly to a lift arm assembly by an operator who is located in a cab of a work machine, with (i) the work machine including the implement assembly and the lift arm assembly, and (ii) the implement assembly having a first coupling aperture, comprising the steps of:

**advancing a hydraulic fluid into a cylinder** so as to move a pin from a first pin position to a second pin position, wherein (i)

the pin is spaced apart from the first coupling aperture when the pin is located in the first pin position, and (ii) the pin is positioned within the first coupling aperture when the pin is located in the second pin position; and

viewing the pin when the pin is located in the second pin position by the operator from a position within the cab whereby proper coupling of the implement assembly to the lift arm assembly is verified by the operator without having to exit the cab. (Emphasis added)

Based upon the above recited language, the Examiner will appreciate that claim 7 also recites the limitations of (i) advancing a hydraulic fluid into a cylinder and (ii) viewing the pin when the pin is located in the second pin position by the operator from a position within the cab. As a result, claim 7 is believed to be allowable for the same reasons hereinbefore discussed with regard to claim 1. As a result, Applicants respectfully request that the rejection of claim 7 be withdrawn.

Discussion Re: Patentability of Claims 8-11, 13 and 14

Each of claims 8-11, 13 and 14 include claim 7 as a base claim. As a result, each of claims 8-11, 13 and 14 are believed to be allowable for the reasons hereinbefore discussed with regard to claim 1. Moreover, each of claims 8-11, 13 and 14 include additional novel and non-obvious limitations. As a result, Applicants respectfully request that the rejection of claims 8-11, 13 and 14 be withdrawn.

Discussion Re: Patentability of Claim 15

Claim 15 has been amended to include the limitation of claim 19. Claim 19 has been cancelled. Claim 15, as amended, reads as follows:

15. A work machine, comprising:  
a cab in which an operator may be located;  
an implement assembly having an implement  
and a hinge plate secured thereto, wherein said  
hinge plate has a first coupling aperture  
extending therethrough; and  
a lift arm assembly having a lift arm and  
a cylinder secured thereto, wherein (i) said  
cylinder is operable to move a pin between a  
first pin position and a second pin position in  
response to advancement of a hydraulic fluid  
within said cylinder, (ii) said pin is spaced  
apart from said coupling aperture when said pin  
is located in said first pin position, (iii)  
said pin extends through said coupling aperture  
when said pin is located in said second pin  
position, (iv) said pin is positioned within a  
field of vision of said operator when (A) said  
pin is located in said second pin position, and  
(B) said operator is located within said cab.  
(Emphasis added)

Based upon the above recited language, the Examiner will appreciate that claim 15 also recites the limitations of (i) advancing a hydraulic fluid into a cylinder and (ii) viewing the pin when the pin is located in the second pin position by the operator from a position within the cab. As a result, claim 15 is believed to be allowable for the same reasons hereinbefore discussed with regard to claim 1. As a result, Applicants respectfully request that the rejection of claim 15 be withdrawn.

Discussion Re: Patentability of Claims 16-18 and 20

Each of claims 16-18 and 20 include claim 15 as a base claim. As a result, each of claims 16-18 and 20 are believed to be allowable for the reasons hereinbefore discussed with regard to claim 1. Moreover, each of

claims 16-18 and 20 include additional novel and non-obvious limitations. As a result, Applicants respectfully request that the rejection of claims 16-18 and 20 be withdrawn.

### **35 U.S.C. § 103 Rejection of Claims 4, 12, and 19**

Claims 4, 12, and 19 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Burton in view of Bloom (U.S. Patent No. 5,010,962). Claims 1, 7, and 15 have been amended to recite the limitations of claims 4, 12, and 19, respectfully. Reconsideration of claims 1, 7 and 15 is respectfully requested.

### Discussion Re: Patentability of Claim 1

#### 1. Claim 1

Claim 1, as amended, reads as follows:

1. A method of verifying proper coupling of an implement assembly to a lift arm assembly by an operator who is located in a cab of a work machine, with (i) the work machine including the implement assembly and the lift arm assembly, (ii) the implement assembly including a hinge plate, (iii) the hinge plate having a first coupling aperture extending therethrough, (iv) the lift arm assembly having a lift arm and a cylinder, and (v) the cylinder being secured to the lift arm, comprising the steps of:

actuating the cylinder advancing a hydraulic fluid into a cylinder so as to move a pin from a first pin position to a second pin position, wherein (i) the pin is spaced apart from the first coupling aperture when the pin is located in the first pin position, and (ii) the pin extends through the first coupling aperture when the pin is located in the second pin position; and

viewing the pin when the pin is located in the second pin position by the operator from a position within the cab whereby proper coupling of the implement assembly to the lift arm

assembly is verified by the operator without having to exit the cab. (Emphasis added)

2. Proposed Modification/Combination of Burton and Bloom, Jr.

*(i) The Examiner's Proposed Modification/Combination*

The Examiner states the following on page 3 lines 5-7, respectively, of the Office Action:

It would have been obvious to one having ordinary skill in the art at the time of applicants' invention to substitute an hydraulic cylinder for the actuator in Burton in view of the teaching in Bloom (element 60).

*(ii) Burton and Bloom, Jr. are Not Properly Modifiable/Combinable Since the Purpose of Burton's Invention is Frustrated by such Modification/Combination*

Burton discloses the use of an electrically energized linear actuator 40 to move pins 26 between their latched and unlatched positions. Specifically, Burton states as follows:

the pins 26 are moved between their latched and unlatched positions by an **electrically energized linear actuator 40** (FIGS. 4 and 5). By virtue of utilizing an electrical actuator to shift the pins, the coupler 10 may be quickly installed on the boom 12 since connection of the actuator to the electrical system of the vehicle is relatively simple and easy matter. (column 3, line 19-25) (Emphasis added)

Furthermore, Burton teaches that the use of an electrical actuator is more advantageous as compared to using a hydraulic actuator. Specifically, Burton states the following:

Couplings have been made in which the pins are shifted between their latched and unlatched positions by hydraulic actuators. While systems of this type avoid the need of the operator leaving the vehicle to either latch or unlatch the pins, it is very time consuming to establish hydraulic connections between the hydraulic actuators of the coupler and the hydraulic system of the vehicle. In a typical hydraulic coupler, several hours are required to marry the hydraulic systems of the coupler and the vehicle each time the coupler is installed on the vehicle. (Column 1, lines 27-36)

The general aim of the present invention is to provide a new and improved coupled in which the pins are shifted between their latched and unlatched positions by an electrical actuator which may be quickly and easily connected with the electrical system of the vehicle. (Column 1, line 39-44)

The motor may be electrically connected to the electrical system of the vehicle in a relatively quick and simple manner and thus the overall time required to install the power-actuated couple is significantly reduced when compared to the installation time of couplers with hydraulically actuated pins. (Column 4, lines 22-27)

Based upon the above passages the Examiner will appreciate that one of the objectives of Burton's invention is to avoid the use of any hydraulics or a hydraulic actuator in the coupler disclosed in the patent reference. In fact, Burton specifically teaches that the use of an electrical actuator is more advantageous than using a hydraulic actuator. Thus the Examiner will appreciate that, one skilled in the art would not be motivated to use a hydraulic actuator as taught in Bloom, Jr. in place of an electrical actuator as taught by Burton, since the objective of Burton's invention would be frustrated by the proposed modification/combination of Burton and Bloom, Jr.



Since the proposed modification/combination of Burton and Bloom, Jr. frustrates one of the objectives of the invention disclosed in the Burton reference, one of ordinary skill in the art would not be motivated to make the suggested modification. As a result, the proposed modification/combination is not proper, and a prima facie case of obviousness has not been established with regard to the invention of claim 1.

With respect to the Examiner's position that Burton teaches that one of the draw backs in the prior art is the need for the operator to leave the vehicle and that this draw back renders the present invention obvious, Applicants respectfully submit that this is a mischaracterization of Burton's teaching. In particular, Applicants believe that the Examiner is referring to the following passage in Burton:

Unlatching of the implement from the coupling is effected by manually turning an actuator from a normal position to an unlatched position in order to retract the pins to their unlatched positions. This requires the operator to leave the vehicle in order to turn the actuator.

Couplings have been made in which the pins are shifted between their latched and unlatched positions by hydraulic actuators. While systems of this type avoid the need of the operator leaving the vehicle to either latch or unlatch the pins, it is very time consuming to establish hydraulic connections between the hydraulic actuators of the coupler and the hydraulic system of the vehicle. In a typical hydraulic coupler, several hours are required to marry the hydraulic systems of the coupler and the vehicle each time the coupler is installed on the vehicle. (Column 1, lines 22-36)

The above passage of Burton is directed to the necessity of having the operator leave the vehicle so as to physically latch or unlatch the pins of the coupling.

This passage is devoid of any disclosure which teaches or suggests that not being able to view the pin when the pin is located in the second pin position by the operator from a position within the cab is a problem. Therefore, Applicants respectfully submit that Burton is directed to a different problem and does not teach or suggest the advantages of an operator being able to view the pin when the pin is located in the second pin from a position within the cab. Thus, the Applicants further submit that the proposed modification/combination is not proper, and a prima facie case of obviousness has not been established with regard to the invention of claim 1.

Discussion Re: Patentability of Claim 7

Claim 7, as amended, reads as follows:

7. A method of verifying proper coupling of an implement assembly to a lift arm assembly by an operator who is located in a cab of a work machine, with (i) the work machine including the implement assembly and the lift arm assembly, and (ii) the implement assembly having a first coupling aperture, comprising the steps of:

**advancing a hydraulic fluid into a cylinder** so as to move a pin from a first pin position to a second pin position, wherein (i) the pin is spaced apart from the first coupling aperture when the pin is located in the first pin position, and (ii) the pin is positioned within the first coupling aperture when the pin is located in the second pin position; and

**viewing the pin when the pin is located in the second pin position by the operator from a position within the cab** whereby proper coupling of the implement assembly to the lift arm assembly is verified by the operator without having to exit the cab. (Emphasis added)

Thus based upon the above recited language, the Examiner will appreciate that claim 7 also recites the limitations of (i) *advancing a hydraulic fluid into a cylinder* and (ii) *viewing the pin when the pin is located in the*

*second pin position by the operator from a position within the cab.* As a result, claim 7 is believed to be allowable for the same reasons hereinbefore discussed with regard to claim 1.

Discussion Re: Patentability of Claim 15

Claim 15, as amended, reads as follows:

15. A work machine, comprising:  
a cab in which an operator may be located;  
an implement assembly having an implement  
and a hinge plate secured thereto, wherein said  
hinge plate has a first coupling aperture  
extending therethrough; and  
a lift arm assembly having a lift arm and  
a cylinder secured thereto, wherein (i) said  
cylinder is operable to move a pin between a  
first pin position and a second pin position in  
**response to advancement of a hydraulic fluid  
within said cylinder**, (ii) said pin is spaced  
apart from said coupling aperture when said pin  
is located in said first pin position, (iii)  
said pin extends through said coupling aperture  
when said pin is located in said second pin  
position, (iv) **said pin is positioned within a  
field of vision of said operator when (A) said  
pin is located in said second pin position, and  
(B) said operator is located within said cab.**  
(Emphasis added)

Thus based upon the above recited language the Examiner will appreciate that claim 15 also recites the *hydraulic fluid* limitation and the operator viewing the pin *from a position within the cab* limitation. As a result, claim 15 is believed to be allowable for the reasons hereinbefore discussed with regard to claim 1.

**Conclusion**

In view of the foregoing amendments and remarks, it is submitted that this application is in condition for allowance. Action to that end is hereby solicited.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "Bradford G. Addison", is written over a horizontal line.

Bradford G. Addison  
Attorney for Applicants  
Registration No. 41,486

November 11, 1999

Maginot, Addison & Moore  
Bank One Tower  
111 Monument Circle, Suite 3000  
Indianapolis, Indiana 46204-5130  
Phone: (317) 638-2922  
Fax: (317) 638-2139